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ABSTRACT

A typology of Pacific countries is attempted based on economic systems and degree of socioeconomic development using various indicators (per capita income, literacy, life span). Dimensions of language are then grafted onto these grids and an attempt is made to qualitatively correlate socioeconomic development with various manifestations of language development. It is possible to obtain an index of national language development by rating a country on each of seven scales based on status of minority languages, linguistic homogeneity, communicative efficiency within the country, efficiency of the language of education, mastery of the language of government and trade, competence in a language of wider communication for international relations, and degree of development of the national language. What emerges from the analysis is that, although some of the scaled factors correlate with others or with socioeconomic indicators, socioeconomic development on the whole has low correlation with national language development. (JB)

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LANGUAGE AND SOCIAL DEVELOPMENT IN THE PACIFIC AREA

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ABSTRACT

LANGUAGE AND SOCIO-ECONOMIC DEVELOPMENT IN THE PACIFIC

Using data from the United Nations Yearbook and the annual report of the Asian Development Bank, a typology of Pacific countries is attempted based on economic systems (capitalist and socialist) and degree of socio-economic development using various indicators (per capita income, literacy, life-span).

Dimensions of language are then grafted onto these grids and an attempt is made to qualitatively correlate socio-economic development with various manifestations of language development.

We must speak of dimensions of language development rather than merely national language development since a society uses various languages to meet its functional needs.

For development purposes, a society needs first of all a language for literacy functions; for literacy, it would seem that the ideal language, where the social situation permits it, is the Language of the Home or the Mother Tongue. However, specific situations in most countries, arising for the most part from economic and manpower constraints, often prevent such an ideal situation to obtain, in which case alternatives must be sought. Different types of alternatives are examined and evaluated.

In addition, a society needs a Language of Bureaucracy, an official language to carry on functions of government, including legislation within the country and treaty-formulation outside the country. Ad intra, the society's cadre of civil servants must familiarize themselves with this official language through some scheme of training, usually through the education

system.

Ad extra, in its foreign relations, especially for trade, the society needs a Language of Wider Communication; to carry on these functions efficiently, only a minority of the society's civil servants and traders (depending on the economic system) need be familiar with this Language of Wider Communication. Again, obviously, a training scheme will be necessary for this, usually through the educational system once more.

Most important of all, for development in this century and in the future, the society must have access to a Language of Science and Technology, which under present global conditions is confined to no more than four or five languages where scientific literature has been and is still presently being published. A small group of scientists must be trained to meet these scientific needs and to provide access to world science. The proportion or manpower to be thus trained depends on the availability of translators and scientific journalists in that society.

The site, par excellence, for training for this competence is the higher education system as well as opportunity to travel and study outside the country.

For purposes of national unification and the heightening of national consciousness, the society needs a linguistic symbol, the National Language. In ethnically homogeneous societies, the choice of such a national language is relatively easy; in an ethnically heterogeneous society, however, the choice often is problematic, leading to interethnic rivalry and conflict, and often disturbing separatist movements which the society must cope with. Various types of solutions to national language

problems are reviewed.

What emerges from the analysis is that socio-economic development has low correlation with national language development. One can have countries with high socio-economic development not having solved the national language problem and one can have developing countries which have solved the national language problem but which have not achieved adequate socio-economic development; hopefully in this latter case the national language solution will prove to be an ally to development in the future.

The political situation in ethnically heterogeneous countries and in countries whose geographical boundaries do not coincide with their ethnic boundaries because of residues of history, the after-effect of colonialism and imperialism, often poses obstacles to socio-economic development.

Countries whose Language of Wider Communication, Language of Science and Technology, Language of Bureaucracy, and National Language coincide are singularly blessed; lack of coincidence between these functional instruments leads to situations of underdevelopment which must be met with a variety of solutions.

OUTLINE

Language and Social Development in the Pacific Area

1. Introduction

2. Social Development Indicators and Language

3. Indicators of Language Well-Being or Welfare

4. Language Welfare Indices for Countries in the Pacific Area

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Appendix A

1. INTRODUCTION [1]

It is a commonplace now among Western development scientists to assert that development goes beyond per capita Gross National Product, that the individual citizens' well-being in a polity is measurable not only in terms of amounts in currency but in terms of noncurrency measures that together spell a quantifiable degree of quality of life.

The Overseas Development Council (1979) has proposed an over-all Physical Quality of Life Index (PQLI) which includes, in addition to per capita GNP, life expectancy (at age one), infant mortality, and literacy.

A group of social scientists at the Development Academy of the Philippines (Mangahas 1976), in attempting to arrive at measures for the quality of life in the Philippines, have proposed the following categories and have sought indicators for each category: health and nutrition; learning; income and consumption (savings); employment; nonhuman productive sources; housing, utilities, and the environment; public safety and justice; political values; social mobility.

2. Social Development Indicators and Language

Pertinent to literacy under the Overseas Development Scheme and to learning under the Development Academy of the Philippines Social Indicators Scheme is language. Elsewhere (Gonzalez 1979) I indicate the pertinence of the latter to social development in general.

Social development includes as a necessary component, basic to other components, access to knowledge. This access to knowledge

presupposes not only the availability of media for the dissemination of knowledge (measured by some kind of communication index) but the functional skills to obtain knowledge through the easiest mass medium available, the printed word. Hence, literacy (and its presuppositions, the graphization of the language and the use of its graphic system for information) becomes a necessary condition for all further human development as a means to obtain the necessities of life and to meet the higher learning needs of the human person.

Literacy, in addition to presupposing the graphization of a language and the mass production of materials written in this language, in turn presupposes previous choices as to which languages in a polity will be written and used as media of printed communication and schooling.

In what Fishman (1968) calls homogeneous polities, the choice of language for literacy is quite simple. Not so in multilingual polities where choice must be dictated not only by financial constraints but is fraught with inter-ethnic relational constraints which could potentially cause conflict in a state in process of becoming a nation. Reasons of economy and efficiency demand that languages of literacy in a society should be kept to a minimum and thus limit the production of teaching materials to a minimum of languages; on the other hand, for developing societies, as UNESCO (1953) recommends and as the Summer Institute of Linguistics literacy experience has shown, efficiency of learning to read is heightened by the use of the mother tongue and the use of materials produced by neoliterates because of their relevance to the immediate needs of adults learning to be literate in the society.

However, it is not merely at the initial stages of learning that question of language choice and language use are pertinent but to all stages of learning. And if learning is a life-long activity (UNESCO 1972), then language becomes a life-long dimension of man's development whether this learning takes place in a formal or nonformal situation.

While the ideal for developing countries is functional literacy training in the mother-tongue, this is not always possible. Literacy training may have to be carried on in a regional or national lingua franca, indigenous or nonindigenous, or even in a nonindigenous official language with postcolonial connotations. Hence, patterns of bilingual and multilingual education (see Fishman 1977) have to be determined to suit the objectives and needs of each polity, and a program of education in two or more media of instruction implemented. One thinks of maintenance-oriented bilingual education programs, or transitional bilingual education programs, or even developmentally-oriented bilingual education programs where an attempt at communicative competence in both codes is proposed as the ideal.

Still another dimension of language which must be considered in human and social development is the state of development of the code as an instrument for intellectual and scholarly discourse, especially at the higher levels of schooling and for scientific and technological discourse, two key areas for economic development. Languages with a long tradition of use in scholarly discourse, especially in the West, were given by their respective users ample time to be developed by a creative minority, usually by its poets and literary writers, subsequently by its scholars

and scientists. No such long period of growth is possible with many languages of developing nations. Once again, a choice has to be made and a strategy for development outlined and a program of language planning implemented. In the meantime, as an indigenous language undergoes development, the present generation must equip itself with another code that will provide it with the scientific and technological knowledge it needs to develop its economy both in the rural areas and in the urban areas, to come up with an optimal scheme of agricultural and industrial production. Without the scientific know-how already generated by developed countries and reported in one of the scientific languages of the world, developing countries would have to reinvent the wheel. To bypass these preliminary stages to development, access to a Language of Wider Communication, especially to wider communication in the scientific community and not merely the political community, is necessary. Once again, a choice has to be made: Which language? What types of strategies? For which sector of society? Under what time-frame and phase?

As polities evolve, as states become nations, one in perception, one in sentiment, searching for symbols of unification not only in a flag, an anthem, a name, a history (a usable past), and a linguistic symbol, questions of choice and development of a national language become an issue. Again, one cannot generalize, for so much depends on the composition of each polity, its past history, its present structure. But language issues can become symbolic of deeper inter-ethnic rivalries and mistrust, erupting into open conflict or at best indifference, which can hinder learning, produce artificial barriers to

employment, disrupt the search for political values, and even hamper social mobility.

Sibayan (1979) in a pioneering work points to the perceptions of people of language competence and the relevance of language competence for social mobility and personal economic well-being in a developing country such as the Philippines. Undoubtedly, the same observations can be made of all countries, developed and developing. The classic case is British society's use of language competence (accent) in stratifying the members of its society.

One thinks of the language restrictions imposed by the American colonial government on the Philippines to exercise the right of suffrage (see Gonzalez In press), making literacy in English or Spanish (but not in the native languages) a requirement for voting. More recently, one thinks of the language competence required in Lévesque's Quebec to become an employee in a business or to the Malay requirements in Malaysia; in the past, the Spanish or English civil service requirements in American-occupied Philippines.

Perhaps most painful of all are the disruptions due to language differences which have erupted even in developed countries such as Canada and Belgium and in developing countries such as Cyprus, India, Malaysia, symbolic of deeper inter-ethnic differences which prevent the state from really becoming a unified nation with a common past, a present and a future together.

Equally pertinent to the quality of life within the polity is the degree to which the society officially recognizes the ethnic diversity of its society, allows the freedom for this

ethnic diversity to flourish according to the initiatives of its members without threat of domination of any one group, whether majority or minority, and thus preventing the internal colonization or recolonization of a sector of its society, an experience more painful than colonization by an alien power, to cite Salvador de Madariaga's apt observation.

Thus the minority speakers in a polity ideally should have access to the language of government and trade (the official language(s)) usually through learning them in school; for adults, access to these languages necessary for social and economic mobility would have to be provided by extramural means.

Another vital component of this mosaic of what I would call language well-being or language welfare is the creative use of communications media first to respect the rights of minority languages, secondly to enhance and facilitate the development of the national or official languages, and third for the management of the state to use the media as an instrument for political value-creation and to obtain feedback for itself, activities which depend on language for their efficiency.

3. Indicators of Language Well-Being or Language Welfare

Assuming then that man does not live on bread alone, that factors other than economic and financial make for his well-being, I would like to posit that 'the right to language' and its implications constitute part of his social development and must be factored in when considering his well-being, and indicators for this 'language well-being' or 'language welfare' hypothesized in order to obtain some valid measures which can be used for country profiles and for cross-country comparisons (for suggestions

on country profiles, see Ferguson's pioneering 1967 work).

In other words, I am making the claim that language welfare is a social concern, which is defined by OECD as 'an identifiable aspiration or concern of fundamental and direct importance to human well-being as opposed to a matter or instrumental or indirect importance to well-being' (in Mangahas 1976:2). It would then belong to other social concerns already enumerated, namely, health and nutrition, learning, income and consumption, employment, nonhuman productive sources, housing, utilities, and the environment, public safety and justice, political values, social mobility.

Sugunasiri (1978) makes a case for what he calls 'humanistic nationism', proposing a language and ideology-based model of national development for post-colonial nations within a Buddhist model of man. For the individual and his community are not 'well' unless the language of his home, his first language, his mother-tongue, has a place in the scheme of his own life and social relations. It would also seem, based on studies of semi-lingualism (Tokumaa 1979) among Finnish immigrants in Sweden, to cite but one example, that a threshold level of first language mastery must first be attained before any meaningful transfer effects of language skills from one to another can be expected. Hence one of the first implications of the right to language would be a recognition on the part of the state of the right of mother tongues to continue and as a minimum, for the state to do nothing that would in any way hinder the maintenance of these mother tongues or challenge the loyalty of their users. For language is such an intimate part of personality and the human make-

up that after life, bodily integrity, and honor, it is perhaps the possession closest to man. To threaten a man's language would be to threaten in many ways his identity and ultimately his person. And where this threat is real, expressed in words and/or in deeds, the individual reacts violently and with him, his ethnic group, thus threatening the peace and order of the body politic and ultimately the often fragile political unity of the state.

On a larger scale, beyond the individual, looking at the polity, one must look at the ethnic composition of the polity, for often, geographical, political, ethnic and linguistic boundaries do not coincide, so that one has homogeneous and heterogeneous states (Fishman 1968), where either one ethnic group is in the majority or no ethnic group is in the majority, or a composite of possible combinations. Here one looks at the social rather than the individual dimensions of language well-being and considers whether language homogeneity/heterogeneity is an asset or liability to the political process of consensus building and policy making, for out of linguistic and ethnic rivalries rise counterproductive conflicts which the polity must manage if the process of social and economic development will be accomplished through proper political policy-making.

Within the polity, from indicators such as the number of newspapers and printed materials available for the population, access to instruments of the mass media such as radio and television, telephones and the availability of coast-to-coast or island-to-island communication by satellite, one can get an idea of the communication interaction within the polity, an

infrastructural sine qua non for political feedback and for the citizens to make their needs and reactions known to the state managers. Within such an infrastructural network which could be efficient or inefficient, must be factored in the element of language of the mass media, whether singulary or multiple, depending on the language competence (especially passive competence, in reading and in listening) of the communities which compose the polity. Here once more, one must posit as an indicator of language well being the availability of instruments of the mass media to serve the needs of the communities, whether these needs be unilingual or multilingual, depending on the competence of the communities (see Deutsch 1966).

Tied more closely to economic development is the availability within the polity of a language of trade and a language of government and the degree of mastery of such an official language or languages among a significant sector of the population, whether such an official language be indigenous or not, and the adequacy of such a language for purposes of government at the higher levels, especially for policy formulation and legislation. Here one must distinguish between pidgins, which at least initially do not have the development required for the higher functions of government, and the more established languages which permit this use.

Likewise tied to economic development and absolutely necessary for social welfare is the literacy factor in language well-being--for the individual citizens must be literate in at least their mother-tongue if not the regional or national lingua franca, indigenous or not. The rapidity of the spread of

literacy, and the efficiency of the instructional system, whether this be formal or informal, in the classroom or outside the classroom, and whether or not child or adult, is reinforced and maintained through the mass media.

For development beyond the subsistence level, the citizenry, or at least a significant sector of the citizenry involved in international communications and in higher thought processes, needs access to another language factor intimately tied to learning at the tertiary level, a language of wider communication, one of the world languages, not only for international contacts, treaty-making and representation in world bodies but above all for gaining access to science and technology for development and for adapting appropriate technology to the level of development of the country. Hence, while the extent of mastery of a language of wider communication, how much is necessary for how large a percentage of the population, is still debatable, the proposition that at least a significant sector of the population must have access to a language of wider communication is incontrovertible. Competence in such a language of wider communication is thus another component of language well-being.

Finally, for most states struggling to become a nation, not a mere aggregate of communities but a unified community with a common past, a common experience, looking forward to a future together, the nation must usually adopt a linguistic symbol of nationhood, a national language, which may or may not be the same as its official language(s) or even its main medium/media of instruction or its language of government and trade. The

state of development of such a national language (its selection, standardization, dissemination and acceptance, and elaboration for literary purposes and for scholarly discourse especially in science and technology) must be factored in as part of language well-being (Ferguson 1962 and 1968; Haugen 1966; Rustow 1968).

I would like to posit seven factors as components of language welfare in a polity:

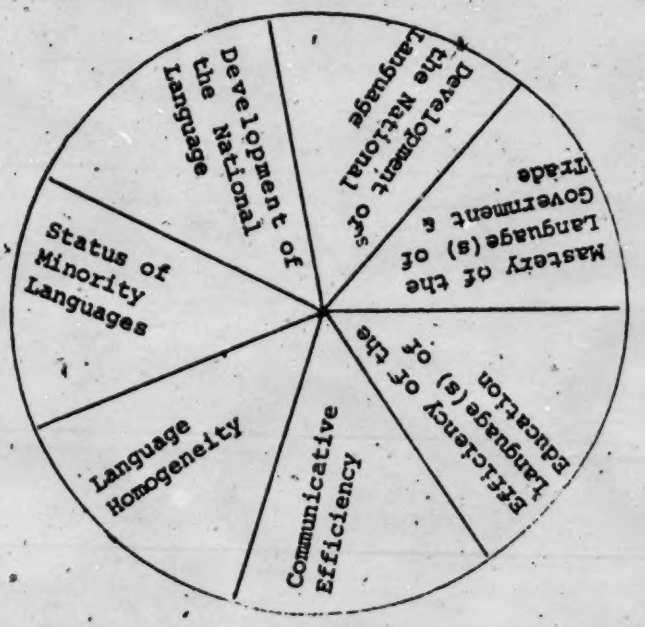
Factor 1	Status of Minority Language(s) in the State
Factor 2	Language Homogeneity in the State
Factor 3	Communicative Efficiency in the State
Factor 4	Efficiency of the Language(s) of Education in the State
Factor 5	Mastery of the Language(s) of Government and Trade in the State
Factor 6	Competence in a Language of Wider Communication among Influentials in the State
Factor 7	Development of the National Language of the State

Figure 1 attempts to show the components of language well-being in graphic form without making any claim at this point as to which factor weighs more than the others for the general language welfare of the citizens in the State. Moreover, no claim is made that these seven factors must be considered coequal with the four components of the Overseas Development Council Physical Quality of Life Index (although Factor 4 is related to the Literacy Factor of the PQLI) nor with the nine social indicators of the Development Academy of the Philippines scheme (although learning indicators certainly may be related to Factors 1, 3, 4, and 6 and the employment indicators related to Factors 4 and 5 and 6; political values indicators related to Factors 1,

2 and 3, and 7; and the social mobility indicators related to Factors 5 and 6).

FIGURE 1

INDICATORS OF LANGUAGE WELFARE
AS A SOCIAL CONCERN


Development of the National Language
Development of the Language
Mastery of the Language(s) of Government & Trade
Efficiency of the Language(s) of Education
Communicative Efficiency
Language Homogeneity
Status of Minority Languages

I propose them here in a tentative way to arrive at a more formal description of the language factors in social development and as an instrument to be able to gauge the language profile of a country better and to enable us to develop a grid with which we can make cross-country comparisons along language lines.

For each factor, I propose a five-point scale along which we can describe or 'place' a country according to one dimension.

The equivalents of the scales are herewith proposed, again for tentative consideration:

FACTOR 1 STATUS OF MINORITY LANGUAGES IN THE STATE

Range 1 The minority languages receive no recognition or encouragement to be maintained and have no place in the school system.

2 The minority languages receive token recognition and are encouraged to be maintained as languages of the home through the initiative of individual ethnic groups although they have no place in the school system.

3 The minority languages are recognized as having status and are encouraged to be maintained through nonformal schooling or through use in the mass media.

4 The minority languages receive official recognition and encouragement to be maintained through use as auxiliary languages in the school system, especially at the initial stages of schooling (for literacy purposes).

5 The minority languages are officially recognized and given encouragement to be maintained through use in the school system as initial teaching languages for literacy purposes. Sometimes, in addition, they are widely used in the mass media.

A country which has no minority languages would also qualify with a rating of 5, since by definition, such a country would be optimally placed with regard to minority languages by not having a problem with them.

Under this metric, Indonesia, which uses the main regional languages as initial media of instruction, would rate 5; the Philippines, whose language policy allows the vernaculars to be used as auxiliary media of instruction, would rate 4; Thailand would rate 1 because of its monolingual policy and apparent non-recognition of its minority languages in the north, northeast,

northwest, and south. Taiwan would rate 2 in its treatment of other Chinese languages and the languages of its tribal minorities. Presumably, a country which allowed the use of vernaculars in the mass media but not in the school system would rate 3; I am not aware of any country fitting this description at present, although this was the status of the Philippines during the American occupation.

FACTOR 2 LINGUISTIC HOMOGENEITY IN THE STATE

Here I depend on Fishman (1968) and Das Gupta (1968), Stewart (1968), Kelmann (1970) and Pool (1972) but would propose going beyond percentages of ethnic groups to qualitative considerations such as:

Range 1 The state is composed of several ethnic groups speaking their own languages, with no group having a plurality.

2 The state is composed of several ethnic groups speaking their own languages but with significant minorities constituting potential rivals.

3 The state is composed of one ethnic group which constitutes more than 1/2 of the population and the rest scattered among other groups, which constitute significant minorities.

4 The state is composed of one major ethnic group which constitutes more than 3/4 of the population, with other groups in insignificant numbers.

5 The state is composed of only one ethnic group speaking only one major language.

Thus, under this metric, a country such as Papua New Guinea would exemplify 1; the Philippines at the time of the Commonwealth and Indonesia at present would exemplify 2; Malaysia would exemplify 3; the South American countries washed by the Pacific, with the exception of Ecuador, would exemplify 4; homogeneous countries such as Japan, Vietnam, the two Koreas, and Thailand would exemplify 5.

FACTOR 3 COMMUNICATIVE EFFICIENCY IN THE STATE

There are at present quantitative measures to indicate the degree of communicative interaction within a polity. We have indicators such as number of newspapers, circulation of newspapers (per 1000 population), number of radio sets per 1000 population, number of TV sets per 1000 population, number of books printed per 1000 population. Perhaps the most basic metric would be the circulation of newspapers per 1000 population since it is still the printed word that is the cheapest and the most efficient instrument of communication and interaction in most countries except perhaps for a country such as Papua New Guinea where some centers of population may be reached only by air. Of necessity, communication has to be carried on in some medium or media, dictated by other conditions in the social situation. The quality of life is enhanced when communication is efficient and people are informed and are able to communicate or express their needs, give the state feedback, and are aided towards lifelong learning. Thus, we have the following range:

Range 1 Printed matter (a few newspapers and some books, mostly textbooks for school use) is available in only a few urban centers in the country; radio is available in some places. If TV is available, it is only in the capital city.

2 Newspapers and popular magazines and TV are available only in urban centers, but radio is available throughout the country. Printed matter is confined to newspapers and popular magazines and textbooks.

3 Newspapers and popular magazines and TV are available in rural and urban centers, radio is available throughout the country; there is a sprinkling of scholarly publications.

4 Mass Media (radio, the press, TV) are available and widespread in every part of the country; each year, in addition to school textbooks, publications for various types of

readers (including scholarly publications) are available but in limited numbers.

5 Newspapers and radios are widely spread; TV is available in rural and urban centers; each year, publications (scholarly journals, popular magazines, literature, research reports) come out regularly.

Under this evaluation scheme, Papua New Guinea would be classified as 1; so would many of the French Overseas Territories in the Pacific. Islands such as Guam and perhaps the American trust territories would exemplify 2. The Philippines and Indonesia would exemplify 3, Malaysia would exemplify 4, while Singapore, Australia, New Zealand, Japan would exemplify 5.

Under FACTOR 4 EFFICIENCY OF THE LANGUAGE OF EDUCATION IN THE STATE, we have perhaps the most studied indicator whenever development scientists have measured the quality of life. Fortunately, the literacy in any country is indicated in most yearbooks and atlases. We have to go beyond percentages however and try to look for functional literacy (UNESCO 1953) or the use of language and reading skills to acquire new knowledge or life-long learning. Moreover, if we are to follow the advice of most literacy experts, the ideal would be for the language of literacy to be the mother-tongue, something of course not always possible. In terms of the factor of language of literacy in the quality of life, I would like to go beyond percentages (although this is an important figure) to the use of the mother-tongue for literacy purposes and to the language of schooling in the school system, to arrive at the following range:

Range 1 A foreign language is used as the language of literacy and subsequent schooling.

.2 An indigenous official language is used as the language of literacy and a foreign language subsequently used for schooling.

3. The mother-tongues or well-known linguae francae are used as languages of literacy for transitional purposes and then an indigenous official language is subsequently used for schooling.

.4 An indigenous official language which is well-known is used as the language of literacy and subsequent schooling, with the closely related mother tongues as auxiliary languages.

5 One indigenous language which is understood and spoken by almost all, is used as the language of literacy and subsequent schooling.

Under this scheme, the French Overseas Territories, where all initial and subsequent schooling is still in the colonial French language, would fall under 1, whereas monolingual indigenous systems such as Japan's would fall under 5. Indonesia exemplifies 3 while the Philippines (before the Bilingual Education Policy of 1974, from 1957 to 1974) would exemplify 3. Malaysia would exemplify 4. In an aggregation of nations such as the USSR, where the national language of each state would be used, we would give the score 5. Similarly, in certain countries where more than 3/4 of the nation is one ethnic group with one language, we would use 5 as the over-all indicator at least for the great majority of the country, using another indicator for dealing with minority languages (e.g. New Zealand, many of the Central American and South American countries). Difficult to place would be the present (since 1974) policy of the Philippines which is bilingual. A way of meeting this would be to come up with an indicator for each language and to average them; thus, for the

Philippines, the indicator for Pilipino would be 4 and for English, or an average of 2.5.

The next factor impinges on the efficiency and adequacy as well as the accessibility of a language of administration and trade in the country.

FACTOR 5 MASTERY OF THE LANGUAGE(S) OF GOVERNMENT AND OF TRADE IN THE STATE

Range 1 Because of tribal and regional diversity, several linguae francae are needed for government transactions and business transactions, none of which are suitable for higher administrative and legislative functions.

2 Because of tribal and regional diversity, several linguae francae are needed for simple day-to-day transactions but a non-indigenous language of government mastered by few civil servants is used for legislation and higher government functions.

3 Because of tribal and regional diversity, one local lingua franca which has been mastered thoroughly is used for trade but a nonindigenous language of government which has been mastered by some civil servants is used as the language of administration.

4 There is one indigenous language which functions as the language of trade and an increasing use of this indigenous language as the language of administration with certain domains (e.g. the law, legislation) still left to a nonindigenous colonial language.

5 There is one indigenous language which functions as an adequate language of administration and of in-country business.

Under this scheme, certain countries in Africa, with competing linguae francae, and an imperfect mastery of the past colonial language, would fall under 1; Papua New Guinea would exemplify 2, with its two linguae francae, Pidgin English and Police Motu, and its official language, English. To a certain extent, the Philippines still represents 3, with the widespread use of Tagalog-based

Pilipino throughout the islands and the continuing use of English, which however has not been thoroughly mastered by the civil service. Malaysia would exemplify 4 at least in aspiration and rapidly in reality, whereas Indonesia with its use of Bahasa Indonesia since 1928 would represent 5. So would many other countries in the area, such as Japan, Korea, Vietnam under the new regime. Ethnically divided countries like Peru (Spanish and Quechua) would fall under 3. Individual republics in the USSR would fall under 5 if their national languages are developed enough as languages of government. Nauru with its tiny population and use of English would fall under 3 without the note on tribal and regional diversity.

The next factor has to do with the degree of mastery of a language of wider communication (LWC) not only for international trade and relations but above all to gain access to the language of science and technology for development. Here, problems likewise arise, since the percentage of population needing to master the LWC is not fixed. One could take Japan as the classic example of a population where few have mastery of a language of wider communication but where access to international negotiations is carried on by a few well-paid and qualified interpreters and where access to science and technology is made possible through a vigorous system of translating the latest in the world of science and technology into Japanese. On the other hand, where a country has not advanced to a stage of development so as to be able to come up with research of its own, disseminated in a local language, and where its only access to modern science and technology is through an international language, then access to science and technology through one the languages of wider

communication becomes an all-important ingredient of linguistic well-being for the polity.

FACTOR 6 COMPETENCE IN A LANGUAGE OF WIDER COMMUNICATION FOR INTERNATIONAL RELATIONS AND FOR SCIENCE AND TECHNOLOGY

Range 1 Hardly anyone in the society, except for a minority of elites educated abroad, is competent in a Language of Wider Communication.

2 Some elites in the society, educated for the most part abroad, possess sufficient competence to function in international relations to represent the country but the society hardly has any people trained in science and technology to read the literature in these fields.

3 A minority of elites possess passive and active mastery of the Language of Wider Communication sufficient for international relations and for passive comprehension of scholarly literature in science and technology.

4 A small cadre of well-educated members of the polity have sufficient active and passive competence in the Language of Wider Communication to act as translators in international relations and to disseminate knowledge of science and technology written in the Language of Wider Communication.

5 A significant sector of the society has sufficient passive and active competence in the Language of Wider Communication for international relations and for science and technology.

It is difficult to set down a definite percentage for a country to qualify under 5. Quality rather than quantity is important if the society has translation services for dissemination and if the language of the country is adequate for science and technology, for example, Japanese.

Laos would represent 1, Kampuchea 2, Thailand 3, Japan 4, and the Philippines 5.

The last factor, which attempts to give an indicator of national language development, is fraught with difficulties

insofar as many countries do not have a de jure national language, one proclaimed as such in the fundamental law of the land such as the Constitution or in some formal national declaration. Thus, the undisputed role of a language in a polity would likewise render it a de facto national language and qualify it as such. More controversial is the degree of correlation between social and economic well-being and the state of its national language. At best, one can say that the development of a de facto or de jure national language would certainly be an important component of the language well-being of a country especially of a developing state trying to be a nation. More stable and politically and economically prosperous polities merely assume these things and therefore the urgency of national language legislation does not become pressing. Moreover, the fact that there are prosperous countries which have no national language and quite poor countries with a well-developed national language makes us hesitate to put that much importance economically on national language development but obviously the possession of national language is important for social well-being (see Kelman 1972 for a consideration of the issues). I propose two alternative ranges:

FACTOR 7 DEGREE OF DEVELOPMENT OF THE NATIONAL LANGUAGE IN THE STATE

Scheme A

Range	0	There is no national language (linguistic symbol of nationhood) selected.
	1	The national language (linguistic symbol of nationhood) has been officially selected either as part of the fundamental law of the land or as a direct after-effect of legislation.
	2	The national language selected is in the process of becoming standardized through the writing of grammars and dictionaries.
	3	The national language is accepted and is in the process of rapid dissemination in the country.

4. The national language is developing a literary tradition.

5 The national language is being used as a medium of scholarly discourse, especially in the area of science and technology.

Scheme B

Range 0 Because of linguistic diversity and ethnic divisions, there is no de facto national language.

1 There is a de facto national language in the country insofar as the language is recognized as a linguistic symbol of unity.

2 The de facto national language is standardized or is in the process of becoming standardized.

3 The de facto national language is accepted and widely disseminated or is in the process of becoming accepted and widely disseminated.

4 The de facto national language has a literary tradition or is in the process of developing a literary tradition.

5 The de facto national language is used as a medium of scholarly discourse in science and technology or is in the process of being used as a medium of scholarly discourse in science and technology.

Steps 4 and 5 have to do with elaboration in both schemes. Under the first scheme, the Philippines exemplifies 1; Indonesia represents 5 (although its use for science and technology is still limited); Mandarin in China and Taiwan represents 4; Tagalog-based Pilipino in the Philippines (prior to the 1973 Constitution and the designation of FILIPINO) would have represented 3; Tagalog between the period 1937 and 1939 would have represented 2. Swahili in Tanzania represents 2 and probably 3. We need 0 to speak of countries such as Papua New Guinea where no choice has as yet been made or where one language has not clearly estalished itself as national (Pidgin English ; see Wurm 1971).

Under the alternative scheme (B), English in New Zealand and Australia, Japanese in Japan would represent 5; Arabic in the

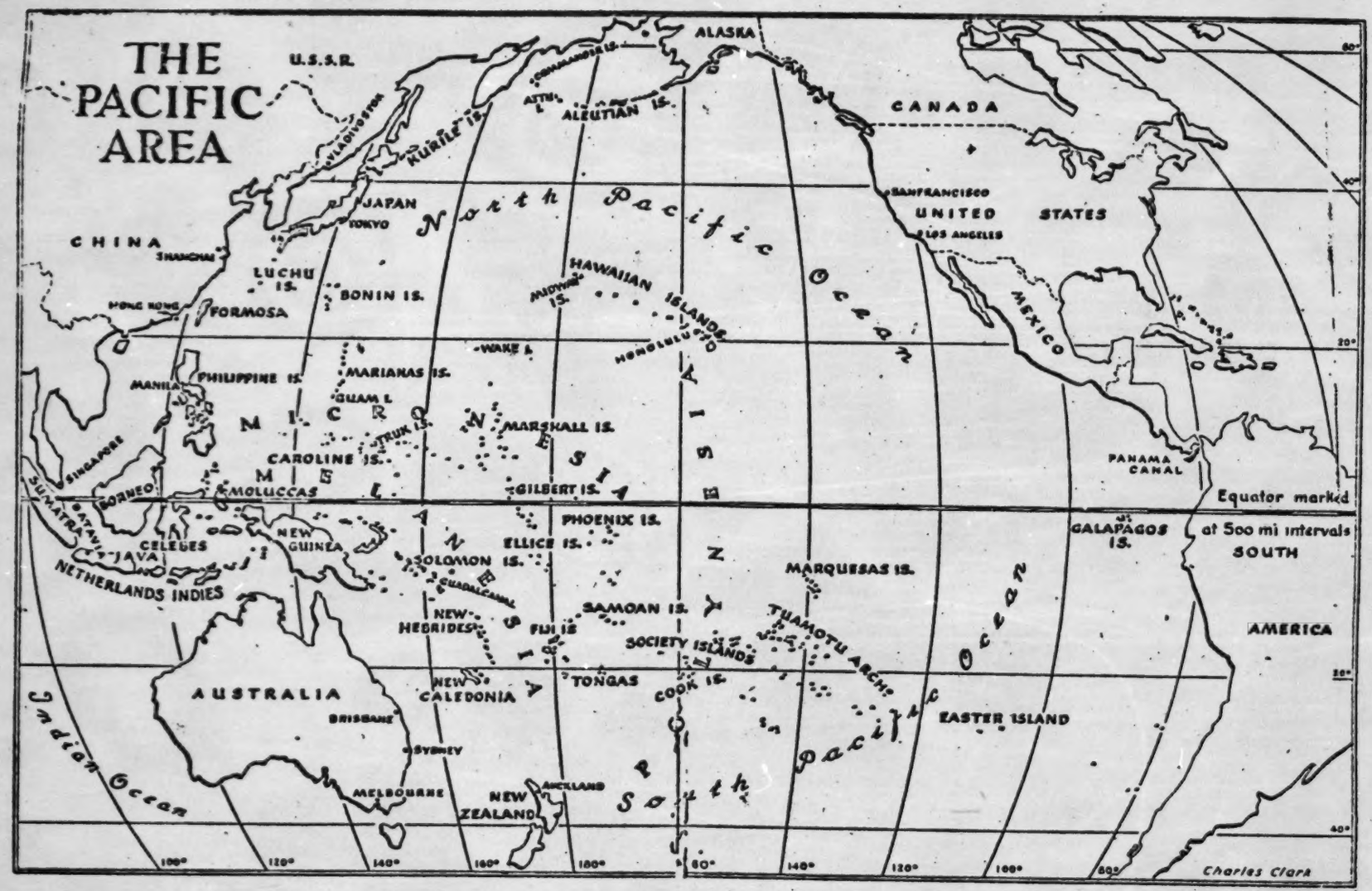
Arab nations would represent 4; it would seem that Pidgin English in Papua New Guinea is a candidate for 1. Most likely-Swahili would qualify for 3 in many East African countries besides Tanzania, although the degree of its standardization would be questionable. Where de facto national languages exist, the processes of standardization and dissemination as well as elaboration were usually in tandem; hence, it is difficult to point to existing countries at present as exemplifying simple cases 2 and 3.

4. Language Welfare Indices for Countries in the Pacific Area

This section attempts to apply the dimensions and ranges proposed as indices of language welfare to countries washed by the Pacific Ocean (Figure 2).

I have used the World Almanac and Book of Facts 1979 and the 1979 Information Please Almanac and the information contained for each country as the main source. Supplemental information from the Asian Development Bank 1979 annual report as well as from the Asia 1979 Yearbook of the Far East Economic Review has been included. For linguistic information, I have relied mostly on the Oceanic Linguistics volume of the series edited by Sebeok (1971). Additional sources of information on individual countries and areas are listed in the bibliography (Laycock 1971, Hollyman 1971, Bowen 1971, Trifonovitch 1971, Lavondès 1971, Remennikov, Zhiltsov and Obukhov 1978, Central Statistics Board USSR 1977, Fishman, Ferguson and Das Gupta 1968, Lewis 1972).

FIGURE 2


THE PACIFIC AREA
U.S.S.R.
VLADIVOSTOK
KURILE IS.
ALASKA
ALEUTIAN IS.
CANADA
JAPAN
TOKYO
North Pacific Ocean
SAN FRANCISCO
UNITED STATES
LOS ANGELES
CHINA
SHANGHAI
LUCHU IS.
BONIN IS.
HAWAIIAN ISLANDS
HONG KONG
FORMOSA
MEXICO
WAKE I.
HONOLULU
PHILIPPINE IS.
MARIANAS IS.
MANILA
GUAM I.
MICRONESIA
TRUK IS.
MARSHALL IS.
CAROLINE IS.
SINGAPORE
MALAY
PANAMA CANAL
BORNEO
MOLUCCAS
GILBERT IS.
Equator marked
at 500 mi intervals
SUMATRA
PHOENIX IS.
GALAPAGOS IS.
SOUTH
CELEBES
NEW GUINEA
ELLICE IS.
JAVA
SOLOMON IS.
MARQUESAS IS.
NETHERLANDS INDIES
GUADALCANAL
SAMOAN IS.
NEW HEBRIDES
FIJI IS
TUAMOTU ARCHIPELAGO
AMERICA
SOCIETY ISLANDS
AUSTRALIA
NEW CALEDONIA
TONGAS
COOK IS.
EASTER ISLAND
Indian Ocean
BRISBANE
SYDNEY
MELBOURNE
NEW ZEALAND
AUCKLAND
South Pacific Ocean
Charles Clark

Name of Country	Status of Minority Languages	Linguistic Homogeneity	Communicative Efficiency	Efficiency of Language(s) of Literacy and Schooling	Competence in Language(s) of Government and Trade	Competence in a Language of Wider Communication	Development of National Language	Over-All Index of Language Welfare
AUSTRALIA	4	4	5	5	5	5	5	4.7
CANADA	4	3	5	5	5	5	5	4.6
CHILE	1	4	3	5	5	5	5	4.0
CHINA (PROC)	4	4	3	3	5	4	4	3.86
CHINA (TAIWAN	1	4	4	5	5	5	4	4.0
COLUMBIA	1	4	3	5	5	5	5	4.0
COSTA RICA	1	4	3	5	5	5	5	4.0
ECUADOR	5	2	3	2	5	5	5	3.86
EL SALVADOR	1	4	2	4	5	5	5	3.7
FIJI	3	3	2	1	2	3	0	2.0
FRENCH OVERSEAS TERRITORIES*	1	4	2	1	2	2	0	1.7
GUATEMALA	2	1	3	2	3	5	5	3.0
HONDURAS	1	4	3	1	5	5	5	3.4
INDONESIA	5	2	4	3	5	3	4	3.7
JAPAN	5	5	5	5	5	4	5	4.86
KAMPUCHEA	1	4	2	5	5	1	3	3.0
KOREA-NORTH	5	5	2	5	5	1	3	3.7
KOREA-SOUTH	5	5	4	5	5	4	4	4.6
MALAYSIA	1	3	4	4	5	4	4	3.6
MEXICO	5	3	4	3	5	5	5	4.3
NAURU	5	5	5	1	3	3	1	3.29
NEW ZEALAND (incl. Cook Islands)	5	4	5	5	5	5	5	4.86
NICARAGUA	1	4	3	4	5	5	5	3.86
PANAMA	1	4	3	4	5	5	5	3.86
PAPUA NEW GUINEA	1	1	2	1	2	2	0	1.3
PERU	5	3	3	3	4	5	5/1=3**	3.7
PHILIPPINES	4	2	3	4/1=2.5***	4	5	4	3.5
SAMOA	5	4	2	2	3	2	5/1=3**	3.0
SINGAPORE	5	3	5	2	5	5	4	4.1
SOLOMON IS.	1	1	2	1	3	2	0	1.43

*Polynesia, New Caledonia, Wallis & Futuna, New Hebrides (with UK)

**Two official languages Spanish/Quechua
English/Samoan

Name of Country	Status of Minority Languages	Linguistic Homogeneity	Communicative Efficiency	Efficiency of Language(s) of Literacy and Schooling	Competence in Language (s) of Government and Trade	Competence in a Language of Wider Communication	Development of National Language	Over-All Index of Language Welfare
THAILAND	1	4	3	4	5	3	4	3.43
TONGA	5	5	2	1	3	2	1	2.7
USSR	5	3	5	4	4	5	5	4.43
UK BRUNEI	1	3	2	2	3	2	4	2.43
Hong Kong	1	4	5	5	4	5	3	3.86
GILBERT IS.	1	1	2	1	3	2	0	1.43
ELLICE IS.								
NEW HEBRIDES IS.								
PITCAIRN IS.								
USA	5	4	5	5	5	5	5	4.86
USA TRUST TERRITORIES	1	1	2	2	3	2	0	1.6
VIETNAM	1	4	2	4	4	3	3	3.0

5. Some Quantitative Considerations on Language Welfare Indices and Social Indicators[2]

In addition to Table 1, which lists the indices for the over-all score of language welfare and the individual scores for the proposed seven components, I have also listed the following social indicators for the Pacific countries under consideration (see Appendix A): per capita income, life expectancy (male), life expectancy (female), infant mortality, literacy, and newspaper daily circulation per 1000.

To find out if my indices were reliable and to examine how these indices correlated with the other social indicators, the reliability coefficient and the matrices of Pearson Product Moment Correlation Coefficients were computed for indices 1 to 7 (the language welfare indices) and for indices 1 to 14 (the language welfare indices and the other social indicators).

Among the seven language welfare indicators, the over-all reliability coefficient is .81, which is quite high; this indicates that the factors are relatively close to one another and that some factors do not add new information but reinforce the over-all index of language welfare (see Appendix B1 for Item-Total and Item-Item correlation matrices).

Among the factors, factor 7 (development of the national language) correlates highly with the total (.858). So do factor 5 (competence in the language[s] of government and trade) .827, factor 3 (communicative efficiency) .756, and Factor 4 (efficiency of language[s] of literacy and schooling) .749.

Factors 1 (status of minority languages) and 2 (linguistic homogeneity) have low correlations with the total (.481 and .541),

which seems to indicate that items 1 and 2 are indicators of factors of a somewhat different content.

Highest inter-item correlations were found between 5 (competence in language[s] of government and trade) and 7 (development of national language) .817; between 4 (efficiency of language[s] of literacy and schooling) and 5 (competence in language[s] of government and trade) .749; between 6 (competence in a language of wider communication) and 7 (development of national language) .742; between 4 (efficiency of language[s] of literacy and schooling) and 7 (development of national language) .655. This confirms the suspicion that factors 4 (efficiency of language[s] of literacy and schooling); 5 (competence in language[s] of government and trade), 6 (competence in a language of wider communication), and 7 (development of national language) have some common ground.

On the other hand, low inter-item correlations were found with most of those involving 2 (linguistic homogeneity) and especially 1 (status of minority languages).

The correlation between 4 (efficiency of language[s] of literacy and schooling) and 5 (competence in language[s] of government and trade) is high (.749), which is understandable. The marginal importance to the society at large of Factor 1 (status of the minority languages) is dramatized by the low correlation between 1 (status of minority languages) and 4 (efficiency of language[s] of literacy and schooling) at least for the majority of the population; in other words, while taking cognizance of minority languages is important for human rights, in the over-all efficiency

of the school system for the majority, the issue is marginal, a sad but true observation. If minority languages are maintained, it must be for reasons other than efficiency for the majority.

If one partials out factor 7 (development of national language), the correlation between 4 (efficiency of language[s] of literacy and schooling) and 5 (competence in language[s] of government and trade) is still rather good (.491).

Since factor 7 (development of national language) seems to have common ground with factors 4, 5, and 6, computations were made deleting item 7. The over-all coefficient of reliability was still high (.739), and the item-total correlations for 3, 4, and 5 were still high (as before) and low for item 1 (as before).

Hence, while the development of national language adds to the reliability of the over-all index of language welfare, it seems that dropping this factor would not be a real loss; for purposes of statistical analysis, we are not really concerned about factors that measure more or less the same reality but different factors that would add their own specific dimension to the measurement of a multi-faceted reality.

Perhaps a time factor is important to include in future research, one not indicated by our tables, namely, that national language is perhaps more necessary at a particular point in the history of a nation's evolution, less so after it is secure and well established or when a common enemy (Fishman's 'supervenient force') is no longer present.

Turning now to the correlation matrix (Appendix B2) for items 1-14, it should be noted first of all that the matrix holds for only 30 out of the 39 countries in Appendix B1 because of the lack of data for some countries. Moreover, for some countries, life expectancy for males is listed separately from life expectancy for females; in other lists, the two are averaged. Some figures are missing for item 14 (newspaper daily circulation per 1000); a conservative adaptation of an average was used. Nauru and the French Overseas Territories were eliminated from the list because of their small populations. Although there are huge differences in population size (e.g., Nicaragua, China, and the USSR), it was decided not to give a weighted score in proportion to their size. The scores are, after all, over-all means for countries. Within the countries, there are usually large differences. The more heterogeneous the countries are, the less appropriate it is to give the scores a weight according to the size of the population. The more homogeneous, the more appropriate it would be to use a weighted score. To be on the conservative side, the population size was not weighted in the analysis.

Factor 9 (per capita income) was found to have high correlation with Factor 3 (communicative efficiency) and a medium correlation with 8 (over-all index of language welfare). There was a slightly low correlation with 4 (efficiency of the language[s] of literacy and schooling). These correlations are plausible: the more prosperous the country, the better the communication services usually are; the more prosperous the country, the better the over-all index of language welfare is

(at least for the four indicators that cluster together: communicative efficiency, efficiency of language[s] of literacy and schooling, competence in the language of wider communication, and as a weaker factor, development of national language). On the other hand, quite interesting and on closer analysis, not surprising, is the weak correlation between per capita income and development of national language (.287). We can cite many examples of poor countries with a relatively well-developed national language (and intellectualization as a literary through not scientific language) and prosperous countries that do not have a national language but several official languages.

The other social indicator that is related to language welfare is Factor 13 (literacy). Literacy correlates very high with over-all index of language welfare (.815), which validates our index but at the same time seems to make it useless insofar as literacy alone might be enough to give us a good indication of language welfare. This of course bears further inquiry, since it is still quite useful to disaggregate language welfare into its components, while at the same time, having literacy as a handy short-cut for it. Next highest in correlation with literacy are communicative efficiency (.649) and efficiency of language[s] of literacy and schooling (.629). It should be stressed that language[s] of literacy and schooling is not the same as literacy; one is an instrument, the other the result of the right use of the instrument. Medium correlation with literacy is shown by language homogeneity (.517), and slightly low correlations are obtained with status of minority languages (.498) and competence

in the language[s] of government and trade (.483) and national language (.461). Again, it is understandable that a country can be almost completely literate and yet not have developed its national language fully. Interesting is the low correlation between literacy and competence in a language of wider communication (.373).

If we look at the factors once more and partial out 9 (per capita income), it is found once more that literacy correlates highly with over-all index of language welfare (.728), again a confirmation of the validity of our language welfare index. With per capita income partialed out, medium correlations were found between literacy and linguistic homogeneity (.517), efficiency of language[s] of literacy and schooling (.529), literacy and competence in the language[s] of government and trade (.476), literacy and newspaper daily circulation per 1000 (.5). For the latter one can hypothesize a threshold level whereby after a country becomes sufficiently literate, then the number of newspapers per 1000 becomes not so much an indicator of basic literacy but prosperity and the quality of intellectual life in the society. Low in correlation were literacy and competence in language of wider communication (.253) and national language development (.378). Again, one can have a literate population (with per capita income partialed out), but having little competence in a language of wider communication and a less than fully developed national language.

6. Further Research .

The indices proposed for the various countries are based on subjective judgments founded on the existing literature listed in the references.

For reliability, a panel would have been preferable to a single evaluator.

Undoubtedly, first-hand knowledge would likewise be preferable to secondary sources based on reports especially as hardly any of these sources deal explicitly with the criteria proposed; all judgments are based on inference. Outside of the Southeast Asian countries and the United States as well as Japan and the People's Republic of China and Hong Kong, the author cannot speak with authority of the other countries, not having had the opportunity of visiting these other countries.

The indices have been proposed as a springboard for discussion, subject to the revision of scholars with first-hand knowledge of the country situations.

Moreover, the indices themselves and the factors for which they attempt to give scores using a range of five are subject to refinement since the situation of each country in many cases has such distinctive characteristics that it is impossible to fit it into one place on the five-point scale proposed. It could very well be that certain indices do not apply or if they do, not quite in the modalities proposed by the ranges; we would need alternative ranges to fit the special situations of these countries, in which case, comparability will become another problem.

Be that as it may, the claim made by this study is that Language Welfare is part of social development and the quality of

life and that the well-being of a society demands that certain dimensions of language welfare be factored in when considering the development of a country.

As a matter fo theoretical interest, we might review how the seven factors isolated for Language Welfare relate to other indicators of social development. Already mention has been made of the direct links with literacy, one of the Physical Quality of Life components proposed by the Overseas Development Council and necessary in any consideration of public welfare. Under our scheme, literacy fits into Factor 4, the language of education.

However, as we have outlined dimensions along the language of education, we go beyond mere literacy and alphabetization, even functional literacy, to the use of language in society, and the efficiency of communication in that society; hence, while literacy is presupposed, the language of education entails more than initial literacy but the use made of literacy for communicating in society and above all for interaction with the political leadership.

Among the Development Academy of the Philippine social indicators, we have learning, which is gauged by quantified indicators such as school enrollment ratios and human capital stock created by education. Under our scheme, language welfare is tied once again to the language of education, language of wider communication in society, especially for science and technology, respect for and use of minority languages, which are prerequisites to learning.

Under political values, which under the DAP scheme are indicated by such measures as ratio of votes to registered

voters, index of political participation (broken down into index of political awareness and index of freedom of political dissent), and index of perceived political efficiency, we could tie in such factors as status of minority languages, competence in the language of government, language homogeneity in the state, degree of literacy, but above all, communicative efficiency in the state. Again, what emerges is that these language factors are tied in closely with other social welfare indicators which in some ways presuppose these language well-being factors. They are necessary but perhaps not sufficient reasons for other types of welfare; without them, it would be difficult to score high on these other indicators. For example, another social concern among the DAP social indicators is public safety and justice; the languages of the court, the efficiency of translation, miscommunications arising from misunderstandings of testimony (as seems to be indicated by the two Filipino nurses indicted for murder in Chicago in 1977) could be factors militating against justice and human rights.

Finally, under the DAP indicators, there is social mobility, measured by indicators such as index of occupational mobility and index of perceived social mobility. Based on Sibayan's (1979) data, Filipinos realize that for mobility in certain jobs, there are language prerequisites, with however the domains for English rather narrowly restricted and with domains for Pilipino and code-switching (Pilipino and English) being expanded in contemporary Filipino life.

On correlation, Fishman (1968) has already pointed out that it is probably ill-advised to expect high correlations between a language factor such as homogeneity with an economic factor such as

Per Capita Income, although it was surprising from this study that there was at least moderate correlation between the Per Capita Income and the Over-All Index of Language Welfare (.57). In the same way that language homogeneity 'is a necessary but not sufficient condition of economic development [in the Pacific area data, the correlation is .19], and economic development is a sufficient but not necessary condition of language uniformity' (Pool 1972:222), we can say that having a high language welfare index will not necessarily bespeak a correspondingly high social development index, for language welfare is but one component of social development. It is necessary but not sufficient, and some factors in it are more necessary than others.

One probably has to posit a threshold of language welfare, a minimum, before development can take place, but language welfare alone will not be enough to bring about social development. On the other hand, one can point to polities where over-all social, especially economic, well-being has been attained but where language problems persist and continue to be divisive and therefore detrimental to the common weal. Would such language problems be problems of the very poor (as in Africa) and of the very rich (as in Canada and Belgium), showing a bimodal distribution on a curve?

The problem obviously bears further study.

N O T E S

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[2] My colleague, Luke Moortgat, CICM, of the Department of Behavioral Sciences at De La Salle University helped me with the correlation computations and the interpretations. With the help of a Radio Shack TRS 80 minicomputer and a program, he computed the correlation matrices in Appendix B1 and B2. To him I would like to acknowledge my debt and express my gratitude.

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APPENDIX A

PHYSICAL QUALITY OF LIFE INDEX

Political Units Country	Per Capita Income	Life Expectancy at age 1	Infant Mortality	Literacy	Population	Newspaper Daily Circulation per 1000
AUSTRALIA	'75 $ 6311	'67 M 67.63 F 74.15	'74 16.1	'75 98%	'77 14,070,000	'73 386
CANADA	'76 $ 7340	'72 M 69.34 F 76.36	'74 15.0	'75 95%	'77 23,320,000	'73 235
CHINA (PROC)	'74 $ 200	'75 M 59.9 F 68.3	'73 55	'75 95%	'77 865,680,000	100***
CHINA (TAIWAN)	'76 $ 800	'72 M 66.8 F 720	'73 18	'75 88%	'75 16,050,000	'74 83
CHILE	'76 $ 687	'70 M 60.48 F 66.01	'72 76.5	'75 90%	'77 19,660,000	'72 94
COLUMBIA	'75 $ 513	'75 M 59.2 F 62.7	'71 62.8	'75 78%	'77 25,050,000	'74 69
COSTA RICA	'76 $ 1064	'64 M 61.87 F 64.83	'74 37.6	'75 89%	'77 2,070,000	'74 97
ECUADOR	'76 $ 620	'63 M 51.04 F 53.67	'74 70.2	'75 75%	'77 7,560,000	'74 41
EL SALVADOR	'76 $ 503	'61 M 56.56 F 60.42	'75 58.3	'75 58%	'76 4,120,000	'74 51
FIJI	'75 $ 1133	'66 M 66.99 F 72.05	'74 20.6	'75 64%	'77 600,000	'74 36
FRENCH OVERSEAS TERRITORIES						

MAIN SOURCE: World Almanac and Book of Facts 1979

***Conservative adaptation

Political Units Country	Per Capita Income	Life Expectancy at age 1	Infant Mortality	Literacy	Population	Newspaper-Daily Circulation per 1000
POLYNESIA 130 Tahiti Society Is Marquesas Is. Tuamotu Is. Gambies Is. Austral Is.					'74 130,000	
NEW CALEDONIA Loyalty Islands Isle of Pines Huon Islands Chesterfield Islands					'75 138,000	
WALLIS & FUTUNA IS.					'74 9,000	
NEW HEBRIDES					'75 95,000	
GUATEMALA	'75 $ 517	'65 M 48.29 F 49.74	'73 81.2	'75 46%	'77 6,440,000	'74 68
HONDURAS	'76 $ 392	'75 M 52.1 F 55.0	'74 34.1	'75 50%	'76 2,830,000	'74 34
INDONESIA	'75 $ 195	'60 M 47.5 F 47.5	'62 125	'75 60%	'77 143,380,000	'74 68
JAPAN	'76 $ 4478	'74 M 71.16 F 76.31	'75 10	'75 99%	'77 113,860,000	'75 526
KAMPUCHEA	'74 $ 100	'75 M 44 F 46.9	'73 127	'75 50%	'77 8,610,000	'74 49
KOREA-NORTH	'74 $ 380	'75 M 58.8 F 62.5	'73 110	'75 85%	'77 16,650,000	150***

***Conservative adaptation

Political Units Country	Per Capita income	Life Expectancy at age 1	Infant Mortality	Literacy	Population	Newspaper Daily Circulation per 1000
KOREA-SOUTH	'76 $ 642	'75 M 66 F 70	'75 35	'75 88%	'77 36,440,000	'74 175
MALAYSIA	'75 $ 718	'74 M 65.03 F 70.30	'74 35.4	'75 61%	'77 12,600,000	'74 89
MEXICO	'76 $ 1130	'75 M 62.76 F 66.57	'73 51.9	'75 82%	'77 64,590,000	120***
NAURU	'74 $ 7000	-	'68 51.8	-	'75 7,128	-
NEW ZEALAND	'75 $ 3969	'72 M 68.55 F 74.60	'74 13.8	'75 98%*	'77 3,110,000	300***
NICARAGUA	'75 $ 676	'75 M 51.2 F 54.6	'70 '75 46	'75 57%	'77 2,310,00	'74 26
PANAMA	'76 $ 1055	'70 M 64.26 F 67.50	'74 32.9	'75 79%	'77 1,770,000	'73 92
PAPUA NEW GUINEA	'74 $ 500	'72 M 47.7 '75 F 47.6	96**	'75 29%	'77 2,910,000	'74 7
PERU	'75 $ 518	'65 M 52.59 F 55.48	'70 65.1	'75 72%	'77 16,580,000	'74 11
PHILIPPINES	'76 $ 364	'75 M 56.9 F 60.0	'74 58.9	'75 80%	'77 45,030,000	'74 18
SAMOA	'74 $ 280	'66 M 60.8 F 65.2	'74 39.9	98%**	'77 150,000	-
SOLOMON IS.	'74 $ 290	M&F 57**	'69 52.4	13%**	'77 200,000	-
THAILAND	'76 $ 351	'60 M 53.6 F 58.7	'75 26.3	'75 82%	'77 44,160,000	130***

*Corrected

**INFORMATION PLEASE ALMANAC 1979

***Conservative adaptation

Political Units Country	Per Capita Income	Life Expectancy at age 1	Infant Mortality	Literacy	Population	Newspapers Daily Circulation per 1000
TONGA	'74 $ 250	56**	'71 16	-	'77 90,000	-
U S S R	'74 $ 2010	'72 M 64 F 74	'74 27.7	'75 99%	'77 258,700,000	'74 388
UNITED KINGDOM					'77 163,000 (Brunei	
Brunei						
Hong Kong	$ 2590**	72**	14**	83%**	'75 4,440,000 (HK)	150 **
Gilbert Islands	$ 690**	54**	59**	-	'73 52,000 (Gilbert	
Ellice Islands					'76 7,000 (Ellice)	
New Hebrides					'76 100,000 (NH)	
Pitcairn Is.					'76 74 (Pitcairn)	
U S A	'76 $ 6995	'75 M 68.7 F 76.5	'77 14.5	'75 99%	'77 216,820,000	293
Trust Territories						
Mariana						
Guam	'74 $ 3333				'75 105,400	
Caroline					'77 126,440 Caroline	
Marshal					& Marshal	
American Indies					'77 30,600	
Wake					'70 1,647	
Midway Is.					'75 2,256	
VIETNAM	'74 $ 130	'75 M 43.2 F 46.0	'73 150	'75 65%	'77 47,870,000	'73 29

**INFORMATION PLEASE ALMANAC 1979
***Conservative adaptation

APPENDIX B1

ITEM-TOTAL CORRELATION MATRIX

n=39 (countries)

ITEM	TOTAL	Correlation
1		.481
2		.541
3		.756
4		.749
5		.827
6		.717
7		.858

ITEM-ITEM CORRELATION MATRIX

Item	Item	Correlation
1	2	.204
1	3	.476
1	4	.021
1	5	.156
1	6	.127
1	7	.179
2	3	.247
2	4	.491
2	5	.411
2	6	.105
2	7	.32
3	4	.449
3	5	.473
3	6	.614
3	7	.499
4	5	.749
4	6	.412
4	7	.655
5	6	.557
5	7	.817
6	7	.742

for significance of .05: .333
.01: .446

APPENDIX B2

CORRELATION MATRIX

n = 30 (countries)

ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1		-.045	.453	.008	.104	.048	.191	.476	.385	.281	-.142	-.125	.498	.5
2	-.045		.139	.69	.597	-.041	.258	.516	.17	.413	.157	-.269	.517	.373
3	.453	.139		.436	.323	.499	.47	.754	.739	.696	.172	-.646	.649	.768
4	.008	.69	.436		.626	.079	.426	.681	.41	.462	.228	-.201	.629	.504
5	.104	.597	.323	.626		.231	.754	.754	.169	.196	.153	-.15	.483	.261
6	.048	-.041	.499	.079	.231		.655	.541	.31	.415	.174	-.596	.373	.168
7	.131	.258	.47	.426	.754	.655		.793	.287	.212	.049	-.299	.461	.371
8	.476	.516	.754	.681	.754	.541	.793		.57	.594	.145	-.495	.815	.679
9	.385	.17	.739	.41	.169	.31	.287	.57		.633	-.007	-.563	.56	.748
10	.281	.413	.696	.462	.196	.415	.212	.594	.633		.263	-.827	.738	.645
11	-.142	.157	.172	.228	.153	.174	.049	.145	-.007	.269		-.252	.214	.001
12	-.125	-.269	-.646	-.201	-.15	-.596	-.299	-.495	-.563	-.827	-.252		-.545	-.523
13	.498	.517	.649	.629	.483	.373	.461	.815	.56	.738	.214	-.545		.694
14	.5	.373	.768	.504	.261	.168	.371	.679	.748	.645	.001	-.523	.694	

Indices Correlated

1 status of minority languages
2 linguistic homogeneity
3 communicative efficency
4 efficiency of language of literacy and schooling
5 competence in language of government and trade
6 competence in language of wider communication
7 development of national language
8 over-all index of language welfare
9 per capita income
10 life expectancy at age 1 (male)
11 life expectancy at age 1 (female)
12 infant mortality
13 literacy
14 newspaper daily circulation per 1000